MATERIALS MANAGEMENT DIVISION
Indian Institute of Technology Bombay
Powai, Mumbai – 400 076

Direct : (+91-22) 2576 8800 /2576 8805
EPABX : (+91-22) 2572 2545
Fax : (+91-22) 2576 8808
Email : armm@iitb.ac.in
Website:www.iitb.ac.in

TENDER NOTICE

Sealed Tenders are invited by the Asst. Registrar(MM), Indian Institute of Technology, Powai, Mumbai 400 076 for the supply of following item. The Tender No. & brief description of the item is given below:

Sr. No.	***Brief Description***	***Qty.***	***Due Date***
1.	Tender No. SUBH/09/EQP/003/09/001/L/EE/SC Flip Chip Bonder	No.1	**03/12/09**

Detailed description of the item and instructions for submitting your offer can be downloaded from our website: www.iitb.ac.in/~stores/tender. However, a Crossed Demand Draft of Rs.500.00 (Non-refundable) in favour of the Registrar, IIT Bombay should be submitted alongwith your quotation.

The Tender form can be purchased from the Materials Management Division with a request letter against the payment of Rs.500.00 (Non-refundable) per tender by Crossed Demand Draft in favour of the Registrar, Indian Institute of Technology, Powai, Mumbai 400 076 on any working day between 1400 hrs. to 1630 hrs as per the schedule. Tender will be accepted upto 1300 hrs. on due date mentioned above and will be opened as per attached schedule in the presence of the authorised representative of the tenderers who wish to be present.

In case due date happens to be holiday, the Tender will be accepted and opened on the next working day. The timing will remain the same.

(G.K. Bhorkade)
Asst. Registrar(MM)

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General stipulation regarding Tender No.SUBH/09/EQP/003/09/001/L/EE/SC supply of **Flip Chip Bonder.** We shall be obliged if you kindly send your detailed quotation for item, the specifications of which are given in the enclosed sheet. Your quotation may **please be sent in a sealed cover superscribed with our inquiry No. & Due Date**, addressing to the undersigned so as to reach the same by **03.12.2009.** The following suggestion and general conditions may please also be noted while submitting the quotation.

1. Your quotation should be given on FOB international Airport basis. Duty exclusive.
2. The leaflets catalogue etc. should be sent invariably, so that a proper evaluation of the equipment offered is possible.
3. Separate prices should be shown for (a) basic equipment (b) essential accessories (c) optional accessories (d) normal spares particularly of the items which are/must likely sustain damage or failure in use.
4. Installation charges, if extra, should be quoted separately otherwise it will be assumed that the installation will be done free of charge.
5. Performance Guarantee of at least one year from the date of installation will be given.
6. Please also mention specifically whether after Sales-Service facility on service contract basis or otherwise is available.
7. Period of delivery should be mentioned specifically.
8. Your quotation must be valid for at least six months from the date i.e. **03.12.2009**
9. Please also mention whether any facilities are expected from this Institute for installation and operation of the equipment like ambient temperature, humidity, weather specifications power specifications etc. When items are provided full performance satisfactions should be demonstrated.

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10 It is stipulated that insurance will be through LIC as per Govt. of India regulation.

11 A special safety measure you would like to suggest.

12 Training facility if available and the Terms and conditions for the same.

13 Actual user import licence may be provided by us.

14 The price should be on CIF Bombay basis.

15 Illustration Literature or Pamphlet should be attached with the quotation.

16 The rates of exchange should be mentioned.

17 For supply of items against short shipments, intimation is to be given before despatching the same.

18 Please quote your price as per enclosed tender format only viz. Annexure I for indigenous item, Annexure II for imported item.

19 Excise Duty: As per Govt. Notification No. 10/97-CE dt. 1.3.97, IIT is exempted from payment of whole of Excise Duty and we shall provide all the documents under notification to enable you to clear the goods without payment of Excise Duty.

20 Please quote your price in US $ also.

Enclosure : As Stated

Asst. Registrar(MM)

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(To be returned alongwith the Tender)

From:

Tender No. :- SUBH/09/EQP/003/09/001/L/EE/SC

Due on :- 03.12.09

To,

Asst. Registrar(MM)
Indian Institute of Technology
Powai, Mumbai – 400 076

Dear Sir,

I/We hereby offer to supply to the Asst. Registrar(MM), the Stores detailed in the schedule. I/We having understood the condition of the above tender shall abide by the same in the course of execution of orders placed on us.

Yours faithfully,

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Technical Specification for Purchase of Automated Flip Chip Bonder

SPECIFICATIONS:

(A) Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation OR merely stating compliance to technical specifications shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet/literature of the quoted model of the item by the quoting manufacturer and the specifications mentioned in the quotation must be reflected / supported by the printed technical leaflet/literature. Therefore the model quoted invariably should be highlighted in the leaflet/literature enclosed with the quotation. Non-compliance of the above shall be treated as incomplete/ambiguous and the offer can be ignored without giving an opportunity for clarification/negotiation etc. to the quoting party

(B) The technical bid shall be evaluated for acceptability by the technical committee and may call the tenderers for discussion. If necessary, the committee may modify the technical specification to suit the IIT Bombay requirement. In such case the opportunity shall be given to the participating bidders for submitting the revised bid as per modified specifications, if any.

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COMPLIANCE STATEMENTS:

Bidders must furnish a Compliance Statement of each and every required Specification of our tender in the format given below. The deviations, if any, from the tendered specifications should be clearly brought out in the statement. Technical literature/leaflet showing the compliance of the specification MUST also be attached with the quotation.

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Item	Indian Institute of Technology Requirements	Answers
	Parameters	**YES/NO**
1.	The machine must be able to handle, align and bond using Flip Chip Technology, Silicon chip to sensitive chips made of compound semiconductor such as GaAs, InP, GaSb Therefore the machine must include:	
1.1	Component size - Chip size: up to 50mm square or rectangular - Substrate size: up to 50mm square or rectangular *Note: Presence of bumps array on the chip and substrate.*	
2	**Machine specifications**	
2.1	Frame and Granite structure on vibration absorption system	
2.2	**Alignment stage**	
2.2.1	XY movement - Air bearing technology - Resolution of 0,1 µm or better - Travel sufficient to bond on Square 50mm substrate	
2.2.2	Z movement with resolution 0,5 µm or better	
2.2.3	Theta movement - Resolution of 10 µradian or better - Travel +/-5 degrees or better	
2.3.	**Alignment Optics**	
2.3.1	Alignment accuracy better than 1µm	
2.3.2	Direct optical viewing and video camera	
2.3.3	Optical magnification 20X or better enabling viewing bumps down to 6µm	
2.3.4	Field of view 300 x 230 µm or larger, numerical Zoom with measurement capability	
2.3.5	Colour differentiation between chip and substrate	
2.3.6	Protection against thermal drift	
2.4	**Parallelism adjustment**	
2.4.1	Autocollimator for levelling parts - Sensitivity 25 µradian - Ability to level parts with low reflectivity and non perfectly flat with Laser levelling	
2.4.2	Parallelism correction mechanism (motorized tip/tilt system) - Resolution 2 µradian or better - Travel +/- 0.5 degrees or better	
2.5	**Optical Stage**	
2.5.1	XY Stage - Travel large enough to cover large chip: mini 50x50mm - Resolution 1µm or better - Maintain optical axis verticality during displacements within 10µradian or better	
2.6	**Automatic alignment**	
2.6.1	Vision system with following feature is required: - Possibility to display independently chip and substrate image - Search function - Synthetic pattern generation - Distance measurement capability	

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Item	Indian Institute of Technology Requirements	Answers
2.6.1	Vision system must be able to perform automatic levelling using the autocollimator image and the levelling mechanism	
2.7	**Substrate Chuck**	
2.7.1	Dimension 50 x 50 mm or larger	
2.7.2	Heating capabilities - Temperature range : Ambient to 450°C, resolution 1°C - Heating rate: - Cooling rate: - Able to stand bonding force up to 200 kgf - Heat must be confined to the top plate and not propagate to machine mechanism - Chuck surface must be flat and optical polished within 1µm	
2.8	**Chip Chuck**	
2.8.1	Dimension up to 50 x 50 mm	
2.8.2	Heating capabilities - Temperature range : Ambient to 450°C, resolution 1°C - Heating rate: - Cooling rate: - Able to stand bonding force up to 200 kgf - Heat must be confined to the top plate and not propagate to machine mechanism - Chuck surface must be flat and optical polished within 1µm	
2.9	**Bonding processes**	
2.9.1	Thermo-Compression - Force range: 50 grams to 200kgf - Programmable with up to 10 different force steps - Temperature range: Ambient to 450°C - Post bond accuracy: +/- 3µm or better	
2.9.2	Reflow - Temperature range: Ambient to 450°C - Z-Control within 1µm - Programmable with up to 10 Z-steps - Post Bond Accuracy: +/- 1µm or better - Programmable Scrubbing function: X or Y vibration to break oxide - Neutral gas (i.e. Nitrogen) environment capability during bonding	
2.9.3	Process recording system: record the actual parameters of each bond in a txt or xls file for further analysis on independent computer (not to be supplied) - Force - Z-control - Temperature for chip and substrate - Level of the Vacuum securing for chip and substrate on chucks	
2.9.4	Under-filling after bonding - Time pressure dispensing system compatible with underfill material - Programmable dispense pattern to optimize underfill material flow - Possibility to heat up the substrate chuck at elevated temperature (<60°C) during underfill to reduce material viscosity	
2.10	**Components loading**	
2.10.1	Pick up tools must ensure no damage to the bump array present on chip and substrate	

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Item	Indian Institute of Technology Requirements	Answers
2.9.2	Chip storage - Waffle pack or Gel pack compatible - Minimum 6 trays 2-Inch or 2 trays 4-Inch	
2.10.2	Substrate storage - Waffle pack or Gel pack compatible - Minimum 6 trays 2-Inch or 2 trays 4-Inch	
2.11	**Machine control & miscellaneous**	
2.11.1	Machine must be controlled by PC - Windows user interface - Limited access by password for operators, process engineers or service engineers - Trouble shooting menu - Remote control capability for remote maintenance or software update	
2.11.2	Safety: CE marked or equivalent	
2.12	**Provide list of users for SAME system, compatible with bonding die with high density fine pitch (10µm) containing at least 1kx1k bumping array (6-7µm bump size)**	
2.13	**Provide Brochure / Technical details of SAME system along with model number**	
3.1	Installation and training in Indian Institute of Technology - Start up and user training by vendor - User manual	
3.2	Warranty: 12 Months after technical acceptance	
3.3	Pre Shipment acceptance to be done at vendor facility	
3.4	Acceptance test - Immediately after machine installation with presence of the vendor engineer - Standard Acceptance document to be provided by the vendor	

Additional: 1. Include for Calibration Reports of all Stages
2. Include the Electrical Input requirements,like200-250V,50 Hz,3-Phase etc.

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TENDER FORMAT for Indigenous Supplies ANNEXURE-I

Reference No. :- SUBH/09/EQP/003/09/001/L/EE/SC **Due Date:-03.12.09**

Sr. No.	***Description of Item & Specification***	***Quantity***	***Unit Price***	***Unit Price Excise Duty***	***Sale Tax***	***Total Price***

Delivery Mode : F.O.R. Bombay Free Delivery at IIT Bombay Scroll whatever is not applicable
Total bid price should be inclusive of Excise duty & Sale Tax, F.O.R. Bombay/free delivery at IIT Bombay for the above quoted items is Rs.

Delivery Period : Validity Date: (Minimum 60 days from the date of opening of tender)

Terms of payment:- Full payment within 30 days from the date of safe receipt and acceptance of the material.

Place:
Date:

Signature :_____
Name : _____
Business Address : _____

Affix Rubber Stamp :_____

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TENDER FORMAT for Foreign Supplies ANNEXURE-II

Reference No. :- SUBH/09/EQP/003/09/001/L/EE/SC **Due Date:- 03.12.09**

Sr. No.	***Description of Item & Specification***	***Quantity***	***Unit Price on F.O.B. International Airport***	***Total Price, International Airport***	***Indian Agent Commission Rs.***

Note:- FOB price from international airport. Indian Agent's commission if not included in th F.O.B. Price will be paid in Indian Rupees separately. (In case no agent is involved, please clearly in writing)

Delivery Period :
Total bid price for the above quoted items is Rs.

Terms of payment :
(a) 90% payment through Letter of Credit & balance 10% by Demand Draft/ Wire Transfer after satisfactory, installation and commissioning.
(b) For Agency Charges Full payment for agency charges to Indian Agent will be made after receipt/satisfactory installation, testing & commissioning of equipment. These charges will be paid in Indian Rupees.

Validity of the bid 180 days from the date of opening of the tender.

Place :
Date:

Signature :_____
Name : _____
Business Address : _____

Affix Rubber Stamp :_____

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Tender No. SUBH/09/EQP/003/09/001/L/EE/SC Date:_____

1 Tender should be submitted on the schedule to tender and returned with your covering letter in the enclosed form duly signed. Tender should be sent in the sealed cover superscribed with 'Tender Number' Description and Due Date and should be addressed to the Asst. Registrar(MM), Indian Institute of Technology, P.O. IIT, Powai, Bombay-400 076.

2 Tender must reach to the Asst. Registrar(MM), Indian Institute of Technology, Bombay- 400 076, on or before **03.12.2009** upto 1300 hrs.

3 Tender will be opened at 1500 hrs. on **03.12.2009** in the presence of representatives of the firms whoever desires to be present.

4 Tender received after the closing date will not be considered.

5 Tender should be valid for six months from the closing date of the Tender.

6 The delivery period should be specifically mentioned.

7 Tender should be for 'Free delivery at Institute's Premises Powai, Mumbai – 400 076.

8 Tender will be taken as inclusive of Taxes, if nothing is stated by the firm.

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9 If you fail to supply any stores in accordance with the terms and conditions or fail to replace any stores rejected by the Asst. Registrar(MM) or any person on his behalf within such time as may be stipulated, the Asst. Registrar(MM) shall be entitled to purchase such stores from any other source and at such price as the Asst. Registrar(MM) shall be his sole discretion think fit and if such prices shall excess the rate set out in the schedule, you shall be responsible to pay the differences between the price at which such stores have been purchased by the Asst. Registrar(MM) and the price calculated at the rate set out in schedule.

10 If any of the stores mentioned above are already covered by D.G.S. & D Rate Contract, you are requested to give us the advantages of contract rates as this is an Educational Institute sponsored by Govt. of India.

11 Asst. Registrar (M.M) reserves the right to accept or reject any tender without assigning any reason.

12 Terms of payment : Within 30 days from the date of supply and satisfactory demonstration.

Asst. Registrar(MM)

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SCHEDULE

Schedule for	**:**File No. SUBH/09/EQP/003/09/001/L/EE/SC
Last date for purchase of tender forms	:01.12.09 upto 1630 Hrs.
Late date for submission of quotation	:03.12.09 by 1300 Hrs.
Opening of Tender	:03.12.09 at 1500 Hrs.
For Technical clarification contact	:**Prof. Subhananda Chakrabarti** **Dept of Electrical Engg.** Ph No. 2576 7421 e-mail **:** subho [AT] ee.iitb.ac.in
For other inquires, contact	:Asst. Registrar(MM), Materials Management Division Ph : 2576 8800, Fax No. 2576 8808 e-mail : armm@iitb.ac.in